

CLAIMS

What is claimed is:

1. An obstruction detector comprising:
a light sensor; and
a circuit that analyzes of light received by the light sensor, wherein the circuit compares a distribution of the light received by the sensor to a reference distribution.
2. The detector in claim 1, wherein the light sensor is a charge-coupled device sensor.
3. The detector in claim 2, wherein the light sensor includes a plurality of imaging elements, and the distribution of light defines a histogram of gray levels of the plurality of imaging elements.
4. The detector in claim 1, further including a lens in a path of the light received by the light sensor.
5. The detector in claim 1, wherein the circuit updates the reference distribution.
6. The detector in claim 1, further including a light source to illuminate an area proximate to the sensor.
7. The detector in claim 6, wherein the light source is an infrared light source.
8. The detector in claim 7, wherein the light source is activated when the light received by the sensor is below a first threshold value.
9. The detector in claim 7, wherein the light source is deactivated when the light received by the sensor is above a second threshold value.

10. An automobile vehicle part comprising:
 - an opening;
 - a moving openable member in the opening and moveable to a closing line, and the openable member contacts said closing line when the openable member is in a closed position; and
 - a detector including a light sensor and a circuit that analyzes of light received by the light sensor, wherein the circuit compares a distribution of the light received by the sensor to a reference distribution.
11. The part in claim 10, wherein the sensor detects approximately an area surrounding the closing line.

12. A method of detecting an obstruction in a path of an openable member comprising the steps of:

detecting light along a closing line of the openable member with a light sensor to form a light distribution;

comparing the light distribution along the closing line with a reference distribution; and

indicating an obstruction when the step of comparing the light indicates the obstruction in the path of the openable member.

13. The method in claim 12, further including the step of updating of the reference distribution.

14. The method in claim 12, wherein the step of detecting the light includes integrating and detecting an ambient brightness, and the step of integration occurs over a period dependent on the ambient brightness detected.

15. The method in claim 14, wherein the step of detecting the ambient brightness comprises measuring the light received on the sensor.

16. The method in claim 12, further comprising the step of activating a light source when the light received by the sensor is below a first threshold value.

17. The method in claim 16, further comprising the step of deactivating the light source when the light received by the sensor is above a second threshold value.